DISCOVERY

Midwife led maternity care models: A scoping review

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To Cite:
Danda G, Chaibva CN, Chauraya Y, Gwatiringa C, Chamisa JA, Dabengwa I, Moyo H, Mantula F, Sibanda E. Midwife led maternity care models: A scoping review. *Discovery* 2023; 59: e102d1304

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Peer-Review History
Received: 10 June 2023
Reviewed & Revised: 14/June/2023 to 17/July/2023
Accepted: 21 July 2023
Published: August 2023

Peer-Review Model
External peer-review was done through double-blind method.

Discovery
pISSN 2278–5469; eISSN 2278–5450

ABSTRACT

Introduction: Midwife led maternity care models focus on normality, continuity of care and being cared for by trusted midwives from preconception throughout pregnancy, labour and the postnatal period. The aim of this model is to provide care either in community or hospital settings, normally to healthy women with uncomplicated pregnancies. *Methods:* The scoping review used search terms for the PICO components with synonyms, related terms and specialist terms were harvested from the Medical Subject Headings (MeSH)© and Embase© using Rayyan. Database searches were from PubMed, EBSCO-CINAHL, Dimensions, Web of Science, SCOPUS, and the Cochrane Library of Systematic reviews and African Journals Online (AJOL). A total of 17 058 citations were identified and 69 remained for analysis after removing duplicates and others which did not meet the criteria. *Results:* Of the 69 included studies, 14 were qualitative, 34 were quantitative, 19 were RCTs and 2 were mixed methods. Only 13% of the studies were from Africa and the rest were from the developed world. Six themes emerged as follows: reduced interventions in labour; positive birth outcomes; satisfaction with care; cost effectiveness of services; autonomous practice and quality midwifery services; good woman–midwife relationship and several subthemes. *Discussion:* Midwife-led care had a significant positive effect on physiological outcomes for women when compared to physician-led care, had reduced surgical interventions and augmentation, as well as less usage of pharmacological analgesia. This may also assist in acceptability, accessibility and availability of such a model in all maternity care units and community settings in LMICs.

Keywords: Low and Middle-Income Countries, Midwife led maternity care, Obstetrician led model of care, continuity of midwife care, respectful maternity care.

1. INTRODUCTION

Maternity care services utilize various models of care, which include the obstetrician led care and the midwife led care, among other various models in use. The obstetrician led model of care has been the most used and seemed to have gained favour and support with most stakeholders. The continuity of

midwife led care (CMC) is a latest model where the midwife is completely responsible for the pregnant women from the initial booking appointment, through labour to postpartum period (Hua et al., 2018). The midwife led-birthing centers utilize the midwife led care model which is described as a high certainty and evidence-based strategy aiming to improve maternity care (Edmonds et al., 2020).

Findings from Hua et al., (2018) on effects of midwife led care in China proved that there are improvements in vaginal deliveries, breastfeeding, maternal wellbeing and satisfaction in this type of care. Midwife led maternity care models focus on normality, continuity of care and being cared for by trusted midwives from preconception throughout pregnancy, labour and the postnatal period. The main aim of this model is to provide care to low risk healthy pregnant women with no complications in hospitals or in their communities.

An evaluation of outcomes for mothers and neonates in midwife led units in Ireland by Dencker et al., (2017) revealed that midwife led care is a safe and affordable option that should be considered for all maternity units. Globally, there are gaps where women do not receive appropriate maternity care for various reasons (Dencker et al., 2017), thereby increasing unnecessary interventions and morbidity among women of childbearing age. A preliminary search showed that the cost effectiveness of the midwife led care is not adequately covered in Low- and Middle-Income Countries (LMICS) as most interventions focus on High-Income-Countries (Long et al., 2016).

According to the State of the World Midwifery report (SOWMy, 2020), there is need for investment in four key areas if midwives are to perform to full potential, among the four key areas of investment is midwife led improvement to Sexual, Reproductive Maternal, Neonatal and Adolescent Health (SRMNAH) service delivery. This key area will focus on optimizing the role of the midwife as well as utilisation of midwife led models of care, among other areas of focus. This same report SOWMy, (2020) states that well trained and supported midwives are able to deliver 90% of the essential SRMNAH interventions as well as facilitating positive birth outcomes.

It has been noted that the midwife led maternity care is not being distinctly implemented in public institutions in most LMICs except for some unclear application in the primary health settings in urban and rural centers where the model is being practiced silently and overshadowed by the obstetrician led model but where there is a midwife as the sole expert attendant from antenatal through delivery to postnatal care in these primary care settings. The ICM, (2017) advocates for development of midwife led units in countries where it is not being practiced since it is the most appropriate model of care for the majority of childbearing women with uncomplicated pregnancies and labour.

The midwife led model of maternity care provides safe and high-quality care and is also associated with more efficient use of resources and improved birth outcomes. It is against the above background that the researchers identified the need for the scoping review to identify concepts of the midwife led model being used in other countries. This may assist in acceptability, accessibility and availability of such a model in most maternity care units and community settings in LMICs.

2. METHODS

This article reviewed all studies done in countries ranging from low to middle income and developed countries focusing on midwife-led maternity care as well as comparison studies of midwife led care and obstetrician led care. The SR aimed to answer the review questions: *What midwife led maternity care model works in LMIC and developed countries, How and Why?*

The study's research question was resolved by the following PICO framework:

Population – Low and Middle-Income Countries and developed countries

Intervention – Midwife led maternity care

Comparison – Obstetrician led model of care

Outcome – Cost effective quality model of midwife led maternity care, emotional perinatal support, continuity of midwife care and respectful maternity care, feasibility of the midwife led maternity care model.

Search strategy

The search terms for the PICO components with synonyms, related terms and specialist terms were harvested from the Medical Subject Headings (MeSH)© and Embase©. Database searches both primary (grey literature) and secondary sources were included in the search: PubMed, EBSCO-CINAHL, Dimensions, Web of Science, SCOPUS, and the Cochrane Library of Systematic reviews and African Journals Online (AJOL). Researcher ID was responsible for the literature search and seven independent reviewers (blinded screening) (CNC, GD, CG, YC, JAC, HM and FM) worked on the screening of the articles. An arbitrator was referred to when the decisions conflicted (ES).

The data capturing and project administration was done by (HM), with assistance from the PI (GD). The Preferred Reporting items for Scoping Reviews and Meta-Analyses (PRISMA) were used to visualize the decisions made at each stage of the selection. The following criteria was used for including studies that were entered into the review: English language articles published from the year 2000 to retrieve current references; primary studies that include observational studies, experiments, randomized control trials (RCTs), etc., conducted in LMICs and developed countries; studies of women who have a midwife-led birth in LMICs and developed countries regardless of age; midwife led maternity care studies that include midwives.

Comparison papers of midwife led care and obstetrician led care were also included. A total of 17 058 citations were identified. Opinion pieces, working papers and conceptual notes on midwife led care were excluded from the review. Articles focusing on other maternity care models which are not midwife led or obstetrician led for comparison were excluded from the review. Records which were excluded through title and abstract screening totaled 16 792, leaving us with 266 full articles. The search results were imported into reference manager software and 197 duplicates were removed, leaving a total of 69 abstracts to be screened for inclusion.

Ethical considerations

The principal investigator (PI) applied and obtained ethical clearance (NUST/IRB/2022/03) from the National University of Science and Technology's Institutional Review Board. Data collected was kept under lock and key, password protected and only accessible to the research team.

Studies selected and screened

Rayyan software was used to select and screen studies. Distribution of articles among team members responsible for the review process was done randomly. Two phases were used to screen and select the articles, the first phase screened the title and also the abstract and 16 792 were excluded. The second phase was done among the remaining 266 articles where distribution of articles among team members was done randomly among the seven reviewers. A criteria was used to ensure proper inclusion of articles and to exclude those not suitable.

A lot of consultations and discussions were done during this phase as the reviewers had to come to an agreement about some ambiguous terms like midwife led care unit and other synonyms like midwife care models, free standing midwifery units, midwife led care; standard care and obstetrician led care. We agreed that our main focus was on studies focusing on independent midwife led care and or comparisons of midwife led care versus obstetrician led care. Conflicts were resolved by utilizing a 9th member of the research team (ES) who acted as an arbitrator.

Of the 266 articles thoroughly reviewed and arbitrated, 197 were excluded as we still had 21 duplicates, six published before year 2000 and 153 had outcomes which were not primary to midwife led care or a comparison. We also realized that eight articles were systematic reviews and they had to be excluded and we failed to get full articles for nine abstracts. We then ended up with 69 articles for final analysis. Figure 1 shows how the selected studies were presented.

Data extraction and analysis

The data extraction was done according to authors, year of publication, title of article, aim of the study, methodology used and population as well as key findings from the study. A content analysis was conducted on the selected article's methods and findings section to create a data extraction form. Thematic analysis was applied to the selected studies to bring out the emerging themes from the midwife led models of care.

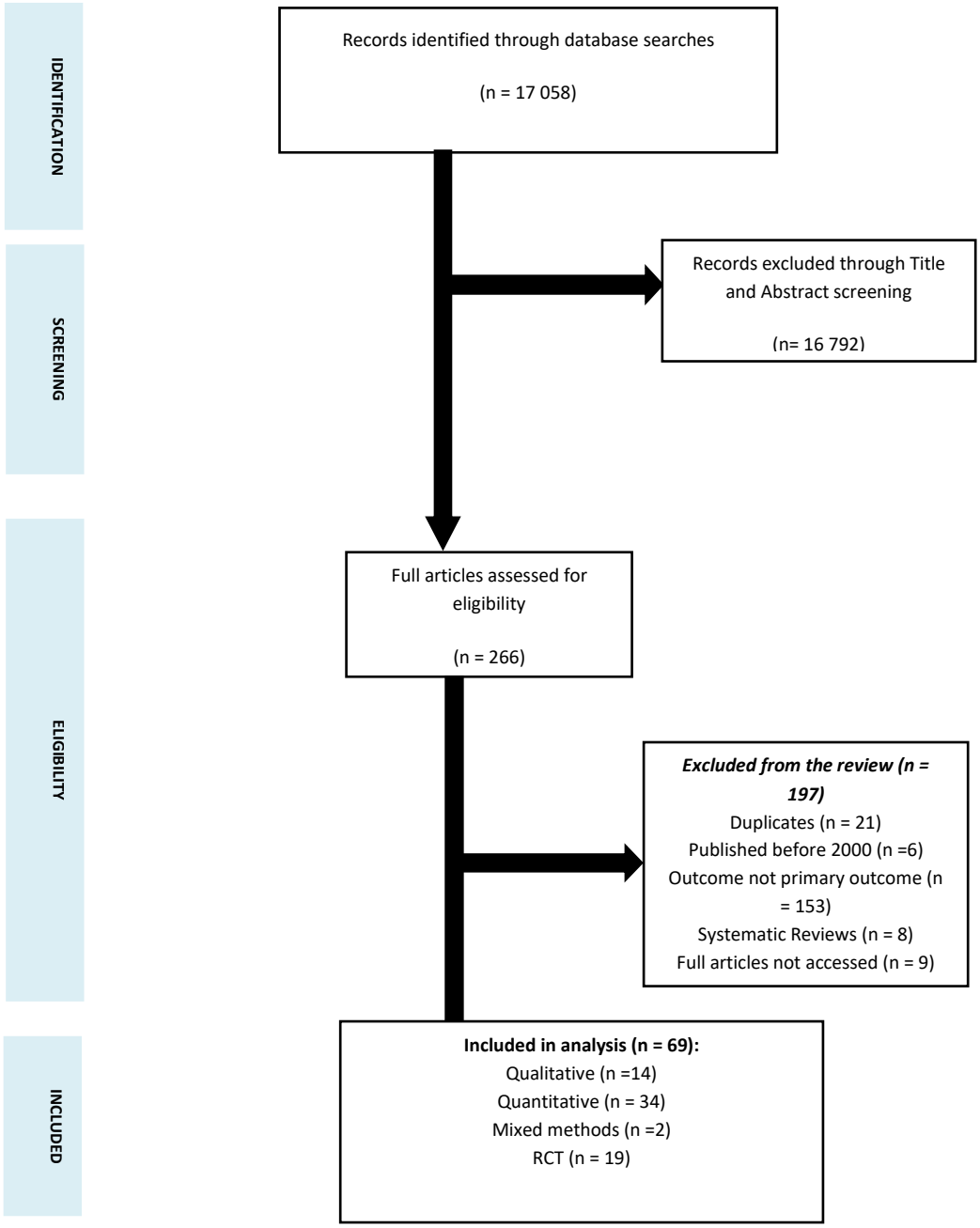

Figure 1 Flow chart for inclusion of studies

3. RESULTS

The findings from the scoping review are presented in two sections. The first section is the brief overview as in Table 1 and the second section is the thematic analysis.

Overview

Of the 69 included studies, 14 were qualitative, 34 were quantitative, 19 were RCTs and 2 were mixed methods. It was noted that only 13% of the studies were from Africa and the rest were from abroad. The studies were mostly focusing on women's and midwives' perceptions on midwife led care as well as comparisons of midwife led care and obstetrician led care and maternal and neonatal outcomes.

Table 1 Thematic analysis

Overall themes	Sub–themes	Categories
Reduced interventions Positive birth outcomes	Reduced hospital stay	Positive birth outcomes
	Physiological deliveries	Reduced interventions. Positive birth outcomes
	Increase in spontaneous vaginal birth	Physiological delivery
	Safety in care comparable to consultant led care	Positive birth outcomes
	MLC has reduced episiotomy rates	Reduced interventions and positive birth outcomes
		Positive women centred care and birth outcomes
		Positive birth outcomes
		Positive birth outcomes in midwife led care
		Lower risk of surgical interventions in MLC and preterm births
	Reduced puerperal complications	Reduced risk of preterm births for mixed risk women
	Positive outcome for child and mother	Lower rates of operative births in Midwifery care: Reduced adverse outcomes
	Improved quality indicators of maternity services	Epidural rate and rate of hospital stay were lower in AMU
		Improved maternal and neonatal outcomes
		Reduced interventions in low-risk pregnancies
		Positive outcome for child and mother
		Reduced medical interventions
		Reduced puerperal complications requiring emergency care
		Improved quality indicators of maternity services
		Positive birth experience
		Intrapartum interventions reduced in MLCs
		better clinical outcomes
		Improved maternal and neonatal outcomes Reduced interventions
		Increase in spontaneous vaginal birth
		Less labour and delivery interventions. Safety in care comparable to consultant led care
		MLC has reduced episiotomy rates, Reduced hospital stay, comparable safe to Physician led care
		Reduced chances of unplanned C-sections
		Positive outcomes on MLC
		Reduced regional analgesia in MLC
		Reduced interventions in MLC
		Support of physiologic birth
		Reduced medical interventions
		Less perineal tears and episiotomy
Satisfaction with care	Women and partners had positive perceptions towards MLCU	Women and partners had positive perceptions towards MLCU
	Positive birth experiences	Positive experiences and autonomy
	Positive experiences and autonomy	Positive birth experiences. Satisfaction with care

	Free positioning during the first and second stages of labour	Better experiences and positive outcomes
	Involvement of support systems	Women satisfied with MLCC
	Woman involvement in care	Be at liberty to take positions of their choice when in labour
	Culture sensitive care	Woman involvement in care
	Accessibility of services, better birth preparedness	Involvement of support systems
		More satisfaction with care among women under midwife-led care
		Partners satisfaction with midwifery care
		Satisfaction with midwifery led models
		Satisfaction on the MLC Model
		Satisfaction in the MLC by a group of postpartum women
		Hybrid model preferred
		More satisfaction with MLC
		More content with care given in MLUs
		More support, Continuity of care assured, Women have more control, More satisfaction with services
		More satisfaction with services. Women involved in decision making
		Positive Increase in admissions to the MLC
		Selection of prenatal care due to competence and professionalism
		Women satisfaction in Midwife led services
		MLC is a safe method for healthy pregnant women
		Preference for birth units run by midwives onsite to obstetric unit
		Partnership in care
		Cultural sensitivity, Accessibility of services, better birth preparedness. Culture sensitive care, Safe services comparable to standard care
		Women have more autonomy
Cost-effectiveness of services	Midwife-led model is low risk and is cost saving	Midwife led units less costly
	Midwife led units less costly	Midwife-led model is low risk and is cost saving
		MLC is cost effective
		Low-cost services
		Cost effectiveness
Autonomous practice and quality midwifery services	Autonomous midwifery practice. Extended scope of practice in MLC	Coping strategies by midwives in MLC
	Midwives' commitment to duty and quality care provision	Autonomous practice in MLC
	LMC equally competent in labouring women management	Autonomous midwifery practice. Extended scope of practice in MLC

	Team work	Midwives' commitment to duty and quality care provision
		LMC equally competent in labouring women management
		Autonomous midwifery practice
		Maternal autonomy
		Team work
Good women-midwife relationship	Effective midwife-mother interaction.	Effective midwife-mother interaction
	Relationship and trust between women and midwives	Good women-midwife relationship
	Relationship and trust between women and midwives	Women having a good relationship and confidence in midwives

Themes

The emerging themes relating to the reviewed studies on midwife-led care models were 1) Reduced interventions in labour; 2) positive birth outcomes; 3) satisfaction with care; 4) cost effectiveness of services; 5) autonomous practice and quality midwifery services; 6) good woman-midwife relationship

Theme 1: Reduced Interventions in Labour

Midwife-led care was found to have a significant positive effect on physiological outcomes for women when compared to physician-led care. Furthermore, there was no apparent difference noted in the quality and safety of care between the providers, indicating that there are no risks to women's physical health when midwives lead the care instead of physicians.

Subthemes

Reduced surgical interventions

Globally, midwife led-care has been shown to be associated with fewer obstetric interventions, a factor which increases women's satisfaction with their maternity care experience (Martin-Arribas et al., 2022). Similarly, this review revealed reduced exposure to caesarean sections, instrumental deliveries and episiotomies in midwife led care (Janssen et al., 2007).

Reduced chances of labour augmentation

Likelihood of induction or augmentation was reduced in women under midwife care, and women were not likely to report pressure to have labour induction (Declercq et al., 2020).

Less likelihood of pharmacological analgesia use

Analgesia in labour is often required for humanitarian and medical reasons. An individualised pain management approach will facilitate a good woman specific experience (Perinpanayagam and Hartopp, 2021). Since pharmacological analgesia has special considerations and associated adverse effects, many women do not want to take medication for pain during labour. Various factors such as cultural and individual influence such decisions (Perinpanayagam and Hartopp, 2021).

Theme 2: Positive Birth Outcomes

There was an increase in positive maternal and neonatal outcomes for low-risk women who delivered in the midwife-led care units (Overgaard et al., 2012; Butler et al., 2015).

Subthemes

Improved quality indicators

In one of the studies reviewed, vaginal birth rate was 87.6% in the MLU compared with 58.8% in the standard care unit, an indicator contributing to reduced morbidity and mortality rates (Bodner-Adler et al., 2017). Other improved indicators cited included increase in spontaneous physiological birth support, less intervention during labour and delivery, reduced puerperal complications as well as reduced stay in hospital.

Reduced perinatal complications

Perinatal complications in MLUs were reported to result in a significantly higher likelihood of uncomplicated spontaneous birth with good outcomes for mother and infant compared to women intending to give birth in an Obstetric Unit (Overgaard et al., 2012). Less perineal tears, second degree tears and reduced episiotomy rates were some of the findings regarded as indicators for improved quality care for women and newborns (Merz et al., 2020).

Theme 3: Satisfaction with Care

Midwife-led continuity of care (MLCC) increased women's satisfaction with maternity care for women at low risk of medical complications (Hailemeskel et al., 2022). The following authors also reiterated that care which is led by midwives has the aspect of continuity and is associated with improved satisfaction with care (Mortensen et al., 2019).

Subthemes

Positive birth experiences

The reviewed studies revealed that women had positive perceptions towards MLCU, had positive birth experiences, including the postpartum positive experiences for mothers. Other studies revealed a positive increase in admissions to MLC. Some mentioned that the prenatal care was selected due to the competence and professionalism of midwives. Other sentiments were that MLC is a safe method for healthy pregnant women and there is preference for onsite midwife led birth unit (OMBU) compared to obstetric unit.

Culture sensitive care

Women also expressed that the care was culture sensitive, accessible and the hybrid model was preferable. Midwife led care is respectful and sensitive to the values of woman (Mortensen et al., 2019). A study clearly demonstrated the provision of culturally sensitive care when the midwife led care models are utilised (Mc-Lachan et al., 2022).

Women's Autonomy

The review revealed that women have more autonomy as shown by their involvement in care, partnership in care, birth preparedness and decision making. They were also afforded the freedom for positioning during first and second stage of labour and women were said to have more control. It was noted that MLC encouraged disclosure of mental health issues and increased confidence in making birth choices (Dharni et al., 2021). Women further reiterated contentment with the free positioning during labour in the first stage, and early skin to skin contact (Liu et al., 2021).

Support systems

The partners had positive perceptions towards MLCU and studies expressed that there was involvement of support systems. Several studies reiterated increased support; continuity of care assured. In another study, women felt satisfied with the prenatal counselling by the midwife, couples with the support a Doula and a family member in the room during childbirth (Liu et al., 2021).

Theme 4: Cost Effectiveness of Services

There is mounting agreement amongst service providers and health professionals that midwife-led care plays a fundamental role in providing safe, cost effective and high standard maternity and neonatal care services (Renfrew et al., 2014). According to Bernitz et al., (2012), total costs per hospital stay are significantly lower for women admitted at the Midwife led units (MU) compared to obstetric led units. For women who are low risk, it has been noted that care by midwives is economical.

Subthemes

Reduced hospital stay

Findings of the study showed that midwife led care (MLC) was as effective as usual care in relation to reduced hospital stay following normal delivery by midwives. Women attending MLC reported better choice in terms of interventions and that shorter waiting times and having more time for discussion were important reasons for choosing MLC. Women attending MLC reported shorter hospital stay and a better experience overall (Butler et al., 2015).

Affordable services by midwives

On the whole, findings indicated that the hospital-based medical service was more expensive than midwifery services although the difference following sensitivity analysis was only CAN$90. It was noted that care given in a freestanding midwife led unit was more affordable than care in an obstetric led unit for low-risk women (Kenny et al., 2015).

Theme 5: Autonomous Practice and Quality Midwifery Services

According to a study conducted by Rocca-Ihenacho et al., (2021), midwives practicing in midwife-led units have demonstrated more autonomy in their practice and have shown commitment to duty through provision of quality care to women. Autonomy is the central element in midwifery that is commonly linked with informed choices; decision-making and power to control over a situation. Autonomous midwifery practice and maternal autonomy are all a result of team work; at the same time women also get the feel of gaining confidence as they initiate some of the activities related to child birthing (Larsson et al., 2020).

Subthemes

Extended scope of practice

According to Prins et al., (2014), autonomous midwifery practice extends the scope of midwifery practice rather than depend on obstetric care when there are definite professional differences in qualifications and their practices in terms of who does what and as governed by their skills as determined by the scope of practice. Other researchers further asset that midwives practicing in primary health settings get equipped to perform more roles than they would perform in obstetric settings (Hartz-Donna et al., 2019).

What has been observed in practice is that; obstetricians have not performed midwives' roles at any one occasion or practice, while midwives have at times performed procedures mandated to obstetricians which exposes the midwives to tow obstetrician led responsibilities. In this scenario, midwives have found themselves in a predicament having towed the obstetric led way (ICM, 2021).

Improved competence

Midwives develop proficiency in skills if they function independently without constant obstetrician oversight; hence they improve their skills deriving support from other midwives and as such gain experience and confidence. The MLC is equally competent in managing labouring women when compared to obstetric led care (Edmondson and Walker, 2014).

Flexibility in practice

The study noted that extended scope of practice improved competences amongst midwives as they did not feel restricted in their practices as there was flexibility with their work life balance (Edmondson and Walker, 2014).

Theme 6: Good Women-Midwife Relationship

Trust is vital in a mother-midwife relationship, without which it is impossible to meet the requests of mothers efficiently and to improve midwifery care.

Subthemes

Trust between women and Midwife

It is said that trusting relationship promotes chances of self-improvement and growth (Dahlberg and Aune, 2013). Confidence, interacting, good reciprocal relationships with honesty and confidentiality among women and midwives ensure supportive associations within the health system therefore allowing active practice by midwives which is safe (Meyer et al., 2017). Midwifery competency developed a relationship between the mother and the midwife which shows good communication and care which is continuous (Lewis et al., 2017).

Relationship between women and midwives

It was discovered that midwives who work in continuity of care are well supported to develop good interactions with women and also assist in consolidation of skills when working with women (Cummins et al., 2015). The quality of interactions between the mother and midwife were mentioned in different studies. One study pointed on the focus of a good interaction between mother and midwife based more on birthing aspects than other emotional and psychosocial needs (Boyle et al., 2016). In the same study,

midwifery care as reported by midwives incorporated a reciprocal relationship and being present (Boyle et al., 2016). The results are in (Table 1).

4. DISCUSSION AND CONCLUSION

The likelihood of spontaneous vaginal births was found to be more likely with midwife rather than physician-led care, suggesting that the midwifery-led model of care supports a non-medicalised approach to childbirth (Overgaard et al., 2012). This is grounded on the midwives' philosophy that birth is normal, with many of their actions specifically aimed towards supporting it as a physiologic process which focuses on meeting women's individual needs and tapping into their personal strengths (Kennedy and Shannon, 2004). Findings align well with the ICM, (2018) position statement which supports normal childbirth, since for the majority of women; pregnancy and childbirth are physiological life events.

Midwives should therefore be overly skillful in promoting the physiology of childbirth and support women to be able to receive care given by midwives. The higher likelihood of spontaneous births with midwife led care subsequently reduces the need for a number of interventions that include; episiotomy and operative births, induction of labour, and administration of pharmacological analgesia. The World Health Organisation maintains that labour may be hastened by augmentation but its incorrect use can cause harm (WHO, 2014). Augmentation with synthetic oxytocin could result in uterine hyper-stimulation which has complications like rupture of the uterus and fetal distress (WHO, 2014).

Consequently, this may increase the risk of labour and delivery clinical interventions. Furthermore, unwarranted clinical interventions also deprive self-determination and worth of women in labour and dignity during labour and can affect their experience negatively during childbirth (WHO, 2014). Midwife led care therefore provides better chances for reduced surgical interventions and should be supported and implemented universally for more effective and positive pregnancy, birth and post-partum experiences.

Inconsistent with most of the review findings, a study conducted in Singapore noted no difference which was significant statistically for mode of delivery and episiotomy between the obstetric and midwife led groups although episiotomies were more common in midwife-led care. This can be associated with transition from the obstetric to the midwife led care model. Professional staff development with continuous education is therefore required to remove uncertainties when midwife-led care is being implemented, and to promote awareness of current practice guidelines among midwives.

Women under midwife led care reported less use of medical pain relief measures specifically epidural analgesia, and more use of other methods which are not pharmacologic and comfort measures compared to those attended by obstetricians (Declercq et al., 2020; Janssen et al., 2007). Midwife led care thus supports a physiological birth while ensuring the highest level of comfort for the mother during labour. A study Butler et al., (2015) concur with other findings which revealed that women attending MLU reported better treatment outcomes.

Midwife led care is cost effective. Midwife led unit was more affordable compared to the standard care unit and was more affordable for low-risk women (Kenny et al., 2015). Positive birth outcomes and quality indicators therefore, are clear evidence of preferred options for low-risk women as it brings about attributes such as positive birth experiences and satisfaction with positive care outcomes as well as autonomy. Autonomous midwifery practice and maternal autonomy are all a result of team work; at the same time women also get the feel of gaining confidence as they initiate some of the activities related to child birthing (Larsson et al., 2020).

Other studies revealed that women supported implementation of an MLU and it had benefits like continuity of care which was key to developing confidence between women and midwives (Dharni et al., 2021). If women have confidence in midwives, this promotes involvement in decision making by both parties (Dahlberg and Aune, 2013). In concurrence with the findings by Cummins et al., (2015), Dahlberg and Aune, (2013) argue that trusting relationships promote opportunities of personal growth and improvement and also promotes decision making possible.

While Meyer et al., (2017) indicated that trusting relationships permit safe working environment, Lewis et al., (2017) also support mothers' ability to be involved in decision making. The researchers therefore, based on the findings; recommend that governments in most LMICs support midwife led care in all their maternity hospitals to improve quality of care as well as the affordability and availability of services.

Authors' contributions

Grace Danda: Principal Investigator, reviewer 1 & midwifery expert

Cynthia Nombulelo Chaibva: Co-Investigator, reviewer 2 & midwifery expert

Yevonnie Chauraya: Co-investigator, reviewer 3 & midwifery expert
Calleta Gwatiringa: Co-Investigator, reviewer 4 & midwifery expert
Judith Audry Chamisa: Co-investigator, midwifery expert, reviewer 5
Israel Dabengwa: Literature search expert
Hlalani Moyo: Data capture, reviewer 6
Fennie Mantula: Co-investigator, reviewer 7 & midwifery expert
Elopy Sibanda: Co-investigator, arbitrator, medical expert

Acknowledgements
National University of Science and Technology for allowing us time to conduct the study as well as part funding of the project.

Informed consent
Not applicable.

Ethical approval
Not applicable.

Conflicts of interests
The authors declare that there are no conflicts of interests.

Funding
The study has not received any external funding.

Data and materials availability
All data associated with this study are present in the paper.

REFERENCES AND NOTES

1. Bernitz S, Aas E, Oian P. Economic evaluation of birth care in low-risk women. A comparison between a midwife-led birth unit and a standard obstetric unit within the same hospital in Norway. A randomised controlled trial. Midwifery 2012; 28 (5):591-9. doi: 10.1016/j.midw.2012.06.001
2. Bodner-Adler B, Kimberger O, Griebaum J, Husslein P, Bodner K. A ten-year study of midwife-led care at an Australian tertiary center: A restrospective analysis with special consideration of perineal trauma. BMC Pregnancy Childbirth 2017; 17(1):357. doi: 10.1186/s12884-017-1544-9
3. Boyle S, Omas H, Brooks F. Women's views on partnership working with midwives during pregnancy and childbirth. Midwifery 2016; 32:21–29. doi: 10.1016/j.midw.2015.09.001
4. Butler MM, Sheehy L, Kington M, Walsh MC, Brosnan MC, Murphy M, Naughton C, Drennan J, Barry T. Evaluating midwife-led antenatal care: Choice, experience, effectiveness, and preparation for pregnancy. Midwifery 2015; 31(4):418-25. doi: 10.1016/j.midw.2014.12.002
5. Cummins AM, Denney-Wilson E, Homer CSE. The experiences of new graduate midwives working in midwifery continuity of care models in Australia. Midwifery 2015; 31(4): 438-44. doi: 10.1016/j.midw.2014.12.013
6. Dahlberg U, Aune I. The woman's birth experience-the effect of interpersonal relationships and continuity of care. Midwifery 2013; 29(4):407–415. doi: 10.1016/j.midw.2012.09.006
7. Declercq ER, Belanoff C, Sakala C. Intrapartum Care and Experiences of Women with Midwives Versus Obstetricians in the Listening to Mothers in California Survey. J Midwifery Womens Health 2020; 65(1):45-55. doi: 10.1111/jmwh.13027
8. Dencker A, Smith V, Mc-Cann C, Begley C. Midwife-led maternity care in Ireland - a retrospective cohort study. BMC Pregnancy Childbirth 2017; 17(1):101. doi: 10.1186/s12884-017-1285-9
9. Dharni N, Essex H, Bryant MJ, Chavez AC, Willan K, Farrar D, Bywater T, Dickerson J; Better Start Bradford Innovation Hub. The key components of a successful model of midwifery-led continuity of carer, without continuity at birth: Findings from a qualitative implementation evaluation. BMC Pregnancy Childbirth 2021; 21(1):205. doi: 10.1186/s12884-021-03671-2
10. Edmonds JK, Ivanof J, Kafulafula U. Midwife led units: Transforming maternity care globally. Ann Glob Heal 2020; 86 (1):1-4. doi: 10.5334/aogh.2794

11. Edmondson MC, Walker SB. Working in caseload midwifery care: The experience of midwives working in a birth centre in North Queensland. Women Birth 2014; 27(1):31-6. doi: 10.1016/j.wombi.2013.09.003
12. Hailemeskel S, Alemu K, Christensson K, Tesfahun E, Lindgren H. Midwife-led continuity of care increases women's satisfaction with antenatal, intrapartum, and postpartum care: North Shoa, Amhara regional state, Ethiopia: A quasi-experimental study. Women Birth 2022; 35(6):553-562. doi: 10.1016/j.wombi.2022.01.005
13. Hartz-Donna L, Blain J, Caplice S, Allende T, Anderson S, Hall B, Mc-Grath L, Williams K, Jarman H, Tracy SK. Evaluation of an Australian Aboriginal model of maternity care: The Malabar Community Midwifery Link Service. Women Birth 2019; 32(5):427-436. doi: 10.1016/j.wombi.2019.b07.002
14. Hua J, Zhu L, Du L, Yu-Li Y, Wu Z, Wo D, Du W. Effects of midwife-led maternity services on postpartum wellbeing and clinical outcomes in primiparous women under China's one-child policy. BMC Pregnancy and Childbirth 2018; 18(1):329. doi: 10.1186/s12884-018-1969-9
15. ICM. ICM strategy 2017-2020. Quality, Equity, Leadership 2017. www.internationalmidwives.org
16. ICM. International Confederation of Midwives. Position Statement. Keeping Birth Normal 2018. https://www.internationalmidwives.org/assets/files/statement-files/2018/04/keeping-birth-normal-eng.pdf
17. ICM. The Hague: International Confederation of Midwives 2021. www.internationalmidwives.org
18. Janssen PA, Ryan EM, Etches DJ, Klein MC, Reime B. Outcomes of planned hospital birth attended by midwives compared with physicians in British Columbia. Birth 2007; 34(2):140-7. doi: 10.1111/j.1523-536X.2007.00160.x
19. Kennedy HP, Shannon MT. Keeping birth normal: Research findings on midwifery care during childbirth. J Obstet Gynecol Neonatal Nurs 2004; 33(5):554-60. doi: 10.1177/0884217504268971
20. Kenny C, Devane D, Normand C, Clarke M, Howard A, Begley C. A cost-comparison of midwife-led compared with consultant-led maternity care in Ireland (the MidU study). Midwifery 2015; 31(11):1032-8. doi: 10.1016/j.midw.2015.06.012
21. Larsson B, Rubertsson C, Hildingsson I. A modified caseload midwifery model for women with fear of birth, women's and midwives' experiences: A qualitative study. Sex ReprodHealthc 2020; 24:100504. doi: 10.1016/j.srhc.2020.100504
22. Lewis M, Jones A, Hunter B. Women's experience of trust within the midwife-mother relationship. Int J Childbirth 2017; 7(1):40–52.
23. Liu Y, Li T, Guo N, Jiang H, Li Y, Xu C, Yao X. Women's experience and satisfaction with midwife-led maternity care: A cross-sectional survey in China. BMC Pregnancy Childbirth 2021; 21(1):151. doi: 10.1186/s12884-021-03638-3
24. Long Q, Allanson ER, Pontre J, Tunçalp Ö, Hofmeyr GJ, Gülmezoglu AM. Onsite midwife-led birth units (OMBUs) for care around the time of childbirth: A systematic review. BMJ Glob Health 2016; 1(2):e000096. doi: 10.1136/BMJGH-2016-000096
25. Martin-Arribas A, Escuriet R, Borràs-Santos A, Vila-Candel R, González-Blázquez C. A comparison between midwifery and obstetric care at birth in Spain: A cross-sectional study of perinatal outcomes. Int J Nurs Stud 2022; 126:104129. doi: 10.1016/j.ijnurstu.2021.104129
26. Mc-Lachan HL, Newton M, Mc-Lardie-Hore FE, Mc-Calman P, Jackomos M, Bundle G, Kildea S, Chamberlain C, Browne J, Ryan J, Freemantle J, Shafiei T, Jacobs SE, Oats J, Blow N, Ferguson K, Gold L, Watkins J, Dell M, Read K, Hyde R, Matthews R, Forster DA. Translating evidence into practice: Implementing culturally safe continuity of midwifery care for First Nations women in three maternity services in Victoria, Australia. EClinical Medicine 2022; 47:101415. doi: 10.1016/j.eclinm.2022.101415
27. Merz WM, Tascon-Padron L, Puth MT, Heep A, Tietjen SL, Schmid M, Gembruch U. Maternal and neonatal outcome of births planned in alongside midwifery units: A cohort study from a tertiary center in Germany. BMC Pregnancy Childbirth 2020; 20(1):267. doi: 10.1186/s12884-020-02962-4
28. Meyer Y, Frank F, Schl¨appy Muntwyler F, Fleming V, Pehlke-Milde J. Decision-making in Swiss home-like childbirth: A grounded theory study. Women Birth 2017; 30(6):e272–e280. doi: 10.1016/j.wombi.2017.05.004
29. Mortensen B, Diep LM, Lukasse M, Lieng M, Dwekat I, Elias D, Fosse E. Women's satisfaction with midwife led continuity of care: An observational study in Palestine. BMJ Open 2019; 9(11):e030324. doi: 10.1136/bmjopen-2019-030324
30. Overgaard C, Fenger-Grøn M, Sandall J. Freestanding midwifery units versus obstetric units: Does the effect of place of birth differ with level of social disadvantage? BMC Public Health 2012; 12:478. doi: 10.1186/1471-2458-12-478
31. Perinpanayagam J, Hartopp R. The Continuous Textbook of Women's Medicine. Obstetrics Module. The Global Library of Women's Medicine. Labor and delivery 2021; 11. doi: 10.3843/GLOWM.413983
32. Prins M, Dillen J, Jonge A. Voordelen van continue zorg door verloskundigen (Advantages of midwife-led continuity model of care). Ned Tijdschr Geneeskd 2014; 157:A7070.
33. Renfrew MJ, Mc-Fadden A, Bastos MH, Campbell J, Channon AA, Cheung NF, Silva DR, Downe S, Kennedy HP, Malata A, Mc-Cormick F, Wick L, Declercq E. Midwifery and quality care: Findings from a new evidence informed framework for

maternal and new-born care. Lancet 2014; 384:1129–45. doi: 10.1016/ S0140-6736(14)60789-3

34. Rocca-Ihenacho L, Yuill C, Mc-Court C. Relationships and trust: Two key pillars of a well-functioning freestanding midwifery unit. Birth 2021; 48(1):104-113. doi: 10.1111/birt.12521
35. SOWMy. The state of the world's Midwifery 2020. https://www.unfpa.org/sowmy
36. WHO. Recommendations for augmentation of labour: Highlights and key messages from WHO's 2014 global recommendations. World Health Organization 2014. https://www.who.int/publications/i/item/WHO-RHR-15.05